

## Bachelor of Technology in Computer Science and Engineering (Data Analytics)

## School of Computer Science and Engineering

Programme Credit Structure		Credits								
University Core Courses		80			CSE2008	Operating Systems	3	2	4	
Programme Core Courses		40			CSE1005	Software Engineering	3	2	4	
Programme Elective / Specialization Elective		20			CSE3002	Artificial Intelligence	3	2	4	
University Elective		20			CSE2007	Database Management Systems	3	2	4	
Total Graded Credit Requirement		160			CSE3003	Computer Networks	3	2	4	
					ECE2002	Computer Architecture and Organization	4	0	4	
					CSE1008	Theory of Computation	4	0	4	
<b>University Core</b>		<b>80</b>			<b>Specialization Electives</b>				<b>20</b>	
<b>Course Code</b>	<b>Course Title</b>	<b>T</b>	<b>P</b>	<b>C</b>	CSE1006	Foundations for Data Analytics <b>[Compulsory]</b>	3	2	4	
MAT1001	Calculus for Engineers	3	2	4	MAT2003	Optimization Techniques	3	2	4	
MAT1002	Applications of Differential and Difference Equations	4	0	4	CSE4005	Data Warehousing and Data Mining	3	2	4	
MATXXXX	Probability and Statistics	3	2	4	CSE3006	Data Visualization	3	2	4	
PHY1008	Modern Physics	3	2	4	CSE4040	Mining Massive Data Sets	3	2	4	
CHY1009	Chemistry and Environmental Studies	3	2	4	CSE3009	NoSQL Database	3	2	4	
CSE1012	Problem Solving using Python	3	2	4	CSE4016	Database Administration	3	2	4	
CSE2005	Object Oriented Programming using JAVA	3	2	4	CSE4008	Social Network Analysis	3	2	4	
CSE2001	Data Structures and Algorithms	3	2	4	CSE4017	Healthcare Analytics	3	2	4	
ECE1002	Fundamentals of Electrical and Electronics Engineering	3	2	4	CSE4041	Applications of Data Analytics	3	2	4	
ENG1001/ ENG1002	English for Essential Communication/ English for Effective Communication	2	2	3	<b>University Electives</b>				<b>20</b>	
ENG1002/ ENG2001	English for Effective Communication /English for Professional Communication	2	2	3	Compulsory for PAT Registered Students					
FRLXXXX	Foreign Language	2	0	2	CSE2025	AWS Solution Architect				
MGT1001	Ethics and Values	0	2	2	CSE1022	Introduction to Programming				
MGT1040 XXXX	Entrepreneurship Indian Studies	3 2	2 0	4 2	STSXXX	Competitive Coding Course-I				
STSXXXX	Qualitative and Quantitative Skills Practice I	3	0	1	STSXXX	Competitive Coding Course-II				
STSXXXX	Qualitative and Quantitative Skills Practice II	3	0	1	STSXXX	Competitive Coding Course-III				
BIC4002	Industrial Internship/ Senior Design Project	0	0	12	STSXXX	Competitive Coding Course-IV				
CAP4001	Capstone	0	0	6	Engineering   Sciences   Humanities   Social Sciences   Liberal arts   Economics   Finance   Management					
SIT1001	Summer Internship	0	0	2	<b>Honours Degree (20 credits)</b> - Students can opt for an Honours Degree" in the same discipline by earning 20 credits in addition to the minimum credit requirement of the Undergraduate Degree from the courses listed in the Honours options.					
ECS2002	Engineering Clinics - System Design	0	4	2	<b>Minors Degree (20 credits)</b> - Students can opt for a "Minor Degree" in other disciplines 20 credits in addition to the mini-mum credit requirement of the Undergraduate Degree from the courses listed in the Minor options.					
ECS3001	Engineering Clinics - Real Time System	0	4	2	<b>Double Major Degree (40 credits)</b> -Students can opt for a "Double Major" in other disciplines by earning 40 credits in addition to the minimum credit requirement of the Undergraduate Degree from the courses listed in the Second Major options.					
EXCXXXX	Extracurricular Activities			2						
<b>Programme Core</b>		<b>40</b>								
ECE1003	Digital Logic Design	3	2	4						
MAT1003	Discrete Mathematical Structures	4	0	4						
CSE3004	Design and Analysis of Algorithms	3	2	4						